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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,644	06/25/2003	James D. Burrington	3215	2753

7590 03/22/2007
THE LUBRIZOL CORPORATION
Patent Administrator - Mail Dorp 022B
29400 Lakeland Boulevard
Wickliffe, OH 44092-2298

EXAMINER

MCAVOY, ELLEN M

ART UNIT	PAPER NUMBER
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1764

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No. 10/603,644	Applicant(s) BARRINGTON ET AL.	
	Examiner Ellen M. McAvoy	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-20 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-20 and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5-20 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higton et al (6,310,010).

Applicants' arguments filed 15 December 2006 have been fully considered but they are not persuasive. As previously set forth, Higton et al ["Higton"] discloses concentrates for lubricating oil compositions which are prepared by mixing at elevated temperatures (i) at least one high molecular weight ashless dispersant; (ii) at least one oil soluble overbased metal detergent; and (iii) at least one surface-active agent comprising a low molecular weight hydroxyl or amine group. Higton teaches that while it is convenient to provide "additive packages" wherein the concentrations of the additives are much higher than in formulated lubricating oil compositions, some of the additives such as overbased metal detergents and high molecular weight dispersants tend to interact with each other at such high concentrations, and that in some instances, the interaction results in gelation. See column 1, lines 30-48. While not wishing to be bound by theory, Higton believes that the dispersant/detergent complex causes an increase in viscosity because the lipophilic groups of the ashless dispersant of one complex can interact with the lipophilic groups of another complex. Higton teaches that the viscosity may rise uncontrollably to the extent that gels may form which is referred to as the Weissenberg Effect.

See column 2, lines 30-43. Suitable ashless dispersants include polyisobutylene succinimides and Mannich base condensates. See column 5, line 62 to column 11, line 22. Suitable detergents include oil-soluble overbased sulfonates, phenates, sulfurized phenates, and salicylates of alkali or alkaline earth metals. See col. 11, lines 23-56. Higton also allows for the addition of other additives to the concentrate such as antioxidants, anti-wear agents and viscosity modifiers. See column 5, lines 8-17. The examiner maintains the position that Higton meets the limitations of the composition of the claims when the dispersant/detergent/antioxidant combination in the additive package forms a gel. Example 1 in column 17 sets forth a blend of an ethylene-butene copolymer substituted dispersant and an overbased detergent containing magnesium sulfonate with a TBN of 400. The Weissenberg Effect (gelling) occurred in several additive packages as shown in Table 1. Although reducing emissions is not taught, Higton teaches that the gels are suitable for use as lubricants in gasoline and diesel engines and the property of reducing emissions (with the addition of the dispersant/detergent/antioxidant) is seen to be inherent.

Applicants argue that they amended independent claims 1, 23 and 24 to include the limitation that the gels referred to in the claims are "semi-solids", that is non-liquid, solid-like materials as described in the declaration. Applicants argue that this additional limitation provides a clear distinction between the solid-like gels claimed by Applicants and the liquid concentrates taught by Higton. This is not deemed to be persuasive because independent claim 1 is drawn to a composition comprising one or more lubricant additives in the form of a gel. Higton teaches that his compositions, which may comprise the same additive components as claimed, may form gels. The fact that Higton seeks to minimize this by the addition of surface

active agents does not change the fact that the composition of claim 1 is not novel which is what is needed to result in the patentability of the claim.

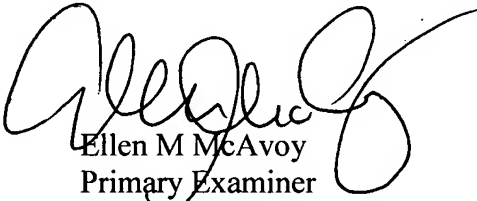
Upon further consideration, the examiner is of the position that the process claims 11-20 and 22 which comprises contacting a portion of an engine oil with a "gel" (as defined in the Declaration) resulting in the reduction of soot in the engine oil and/or emissions in an engine exhaust is obvious over Higton. From the disclosure in Higton it is taught that gels are sometimes formed between the conventional lubricating oil dispersants and the conventional lubricating oil detergents when the concentration of one or both of the components becomes too high such as in additive packages. The examiner is of the position that it would be obvious to the skilled artisan to add more diluent or lubricating oil to the gels so formed to dilute them and to dissipate the gel into a lubricating oil containing the conventional lubricant additives. Thus it would be obvious to contact the lubricating additive gel with a lubricating fluid and expect the gel to slowly release the lubricant additive components into the fluid. The examiner is of the position that it is obvious to place the gel into a device as set forth in claims 23-24 which allows the gel to slowly dissipate into a fluid such as a lubricating oil.

Since the allowance of claims 11-22 indicated in the previous office action has been withdrawn, this office action will not be made FINAL.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ellen M McAvoy
Primary Examiner
Art Unit 1764

EMcAvoy
March 15, 2007